

## **REMARKS/ARGUMENTS**

### **The Specification**

With regard to section 2 of the Action, Applicants have amended the specification, at the Cross-Reference to Related Applications, to reflect the claimed priority of currently allowable claims. Applicants retain the right to claim priority to the provisional applications in future prosecution of continued applications, as appropriate.

With regard to the statement at section 4 of the Action, Applicants note that should any material incorporated by reference be required to overcome an objection, rejection, or other requirement imposed by the Office, the Specification can be amended to incorporate the essential material. However, Applicants are unaware of any essential material relevant to any current requirement by the Office that would be appropriate to amend into the specification at this time. Therefore discussion of this issue appears to be immaterial at this time. Applicants request the objection be withdrawn.

With regard to the Action at section 5, The Action states that "appropriate Action is required." Yet, there is no basis in law or regulation cited. Applicants believe there is nothing improper in the alternate means of expressing the proportions of the inventive catalytic compositions. However, in order to minimize additional efforts on an essentially administrative matter, Applicants have amended the specification to provide consistent expression of the proportions. Therefore, Applicants request withdrawal of the objections to the specification.

### **The Status of the Claims.**

Claims 87-92, 96, 97, 99-103, 106-108 and 110-112, are pending with entry of this amendment, claims 1-86, 93-95, 98, 104, 105, 109 and 113-119 being cancelled. Claims 87, 92, 99-101, 106, 110 and 111 are amended herein. These amendments introduce no new matter and support is replete throughout the specification. These amendments are made without prejudice and are not to be construed as abandonment of the previously claimed subject matter or agreement with any objection or rejection of record.

With respect to claim 87, the amendment merely incorporates the limitations of cancelled claim 109 without importation of additional limitations to the claim set.

With regard to claim 92, the amendment merely incorporates the original limitations of cancelled claim 93 into the claim without additional subject matter.

Claims 99-101, 106, 110 and 111 are amended merely to adjust dependency in light of certain claim cancellations.

Applicants submit that no new matter has been added to the application by way of the above Amendment. Accordingly, entry of the Amendment is respectfully requested.

**35 U.S.C. §103(a).**

Claims 87, 91 to 107 and 112 were rejected under 35 U.S.C. §103(a) as allegedly obvious in based on Yan (U.S. 2004/0167014) in light of Luczak (U.S. 4,447,506), Nguyen (U.S. 6,984,579), Gascoyne (U.S. 6,949,308), Harris (U.S. 4,395,322), Leiber (U.S. 6,333,016) and/or Awano (U.S. App 2003/0124717). Applicants traverse.

Three requirements must be met for a *prima facie* case of obviousness. First, the prior art reference must teach all of the limitations of the claims. M.P.E.P. § 2143.03. Second, there must be a motivation to modify the reference or combine the teachings to produce the claimed invention. M.P.E.P. § 2143.01. Third, a reasonable expectation of success is required. M.P.E.P. § 2143.02. The teaching or suggestion to combine and the expectation of success must be both found in the prior art and not based on Applicants' disclosure. M.P.E.P. §2143. Specifically, a *prima facie* case of obviousness requires that the combination of the cited art, taken with the general knowledge in the field, must provide all of the elements of the claimed invention. When a rejection depends on a combination of prior art references, there must be some teaching, suggestion or motivation to combine the references. In re Geiger, 815 USPQ2s 1276, 1278 (Fed. Cir. 1987). Moreover, to support an obviousness rejection the cited references must additionally provide a reasonable expectation of success. In re Vaeck, 20 USPQ2d 1438 (Fed. Cir. 1991), citing In re Dow Chemical Co., 5 USPQ2d 1529, 1531 (Fed. Cir. 1988).

**Claims are not obvious based on cited references.** Claims 87, 91-94, 98-99 and 104-107 were rejected as allegedly obvious in view of Yan, Nguyen, Awano and Luczak. Claim 95 was rejected as allegedly obvious in view of Yan, Nguyen, Awano, Luczak, Lieber and/or Resasco. Claims 96 and 96 were rejected as allegedly obvious in view of Yan, Nguyen, Awano, Luczak and Gascoyne. Claims 99-103 and 112 were rejected as allegedly obvious in view of Yan, Nguyen, Awano, Luczak and Harris.

As a preliminary matter, Applicants note that claims 88 to 90 have not been rejected in the Action. Applicants assume that these claims are allowable. In any case, the claims are ultimately dependent on an allowable claim and are thus considered non-obvious.

Yan teaches formation of an electrode by electroplating Co onto carbon paper, followed by nanotube growth on the Co catalyst, and electrodeposition of Pt onto the nanotubes. It has not been alleged, e.g., that Yan teaches CVD of nanotube growth catalyst onto a fiber. In fact, Yan only teaches electrodeposition of pure metal nanotube growth catalysts. Luczak teaches electroplating Pt onto carbon black supports followed by adsorption of, e.g., chromium and cobalt salts onto the Pt layer before heat treatment to form an alloy coated carbon black fuel cell electrode. These references fail as bases for obviousness rejections, as discussed in previous Responses. Applicants believe the claims before amendment are novel and non-obvious, based, e.g., on the remarks of the previous Response.

However, Applicants have elected, at this time, to take currently allowable aspects of the invention to issue. Applicant note this does not suggest an admission or acknowledgement of agreement with rejections of record.

"While Luczak discloses that ternary Pt-V-Co catalysts are known in the fuel cell art, neither Luczak nor the remaining prior art of record appears to teach, suggest or render obvious the quaternary catalyst material of claim 109." See the Action at section 12. Applicants note that the subject matter of claim 109 was also found allowable in the Action of April 4, 2006, even in combination with the original claim 87 (e.g., without the CVD aspect incorporated), therefore, this recently incorporated aspect has been deleted from claim 87 as unnecessary to the novelty and non-obviousness of the claim. Applicants have

incorporated the limitations of claim 109 into the independent claim 87, thus rendering claim 87, as currently amended, non-obvious in the opinion of the Office.

Because dependent claims include all limitations of the claims upon which they are dependent, all the currently prosecuted dependent claims are new and non-obvious. Therefore, Applicants respectfully request withdrawal of all obviousness rejections.

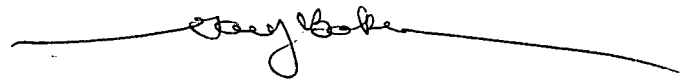
### CONCLUSION

In view of the foregoing, and the suggestions of the Examiner, Applicants believe all claims now pending in this application are in condition for allowance. The issuance of a formal Notice of Allowance at an early date is respectfully requested.

If the claims are deemed not to be in condition for allowance after consideration of this Response, a telephone interview with the Examiner is hereby requested. Please telephone the undersigned at (510) 769-3510 to schedule an interview.

QUINE INTELLECTUAL PROPERTY LAW GROUP  
P.O. BOX 458, Alameda, CA 94501  
Tel: 510 769-3510  
Fax: 510 337-7877  
PTO Customer No.: **22798**  
Deposit Account No.: **50-0893**

Respectfully submitted,



Gary Baker  
Reg. No: 41,595

#### Attachments:

- 1) A petition to extend the period of response for **2** months;
- 2) A transmittal sheet;
- 3) A fee transmittal sheet; and,
- 4) A receipt indication postcard.